

UNIFIED COMMAND HEALTH AND SAFETY PLAN

Site Specific Health & Safety Plan (HASP)

Job Name: Lindsey Lake Tanker Spill (I-84, MP 54)
Job #: OERS#2019-0344;NRC#1237421
Date: 2/16/2019
Site Supervisor/IC James Collins, SOSOC, DEQ; Jeff Fowlow, FOSC, EPA; Rob Honsberger, HydroCon LLC, RP IC
Site Safety Officer Alan Dimock

1. INTRODUCTION

This Site Specific Health & Safety Plan (HASP) sets forth policy and procedures that will minimize site-specific risks to workers, visitors and the public. This plan applies all workers on the incident. The procedures and guidelines contained here are based on the best available information at the time of the Plan preparation. Specific requirements in the Plan may be revised when new information is received or conditions change.

The site Safety Officer (SO) is responsible for informing all individuals on the job site of the contents of this plan and ensuring that each person signs it. By signing the Plan, individuals are acknowledging the presence of specific on-site hazards and the policies and procedures required to minimize exposure or adverse effects to these hazards. The policies and procedures contained here are crucial to the safe and effective conduct of all personnel on-site. This Plan has been drafted to meet all requirements of 29 CFR 1910.120

2. SITE DESCRIPTION

Location: I-84 near MP 54

Description: Manage and mitigate the response scene of a tanker truck roll-over which released an estimated 4,400 gallons of diesel fuel onto I-84, side slope of the west bound roadway and into Lindsey Lake. Be prepared and safe for challenging weather conditions.

U.S. EPA: Jeff Fowlow, (206)225-5582

Oregon DEQ: Jamie Collins, (541)321-3124

Contracting Company or Agency: NWFF

Contact Person and Phone Number: Shiloh McConnell, (541)231-2619

Subcontracting Company: NRC

Contact Person and Phone Number: Chad Sisk 971.352.5449

3. SCOPE OF WORK

Objective(s): Maintain boom placements within Lindsey Lake in order to prevent discharge of product to the Columbia River. Maintain sorbents in identified areas and replace as necessary. Follow on objective is to capture the contaminant for disposal.

Work Plan: NWFF and NRC will begin flushing water pulled from Lindsey Lake down the side slope of westbound I-84. As the product washes down the side slope, the material is expected to be contained within Lindsey Lake. Teams will be in boats with sorbent materials to capture the contaminant. There will be a 70-barrel vac truck staged on the road. A baker tank will be staged at Wyeth, to accept fluids from the 70-barrel.

4. ON-SITE ORGANIZATION AND COORDINATION

The following personnel are designated to carry out specific job functions on-site (Individuals may perform more than one job function).

Federal On-Scene Coordinator: Jeff Fowlow

State On-Scene Coordinator: Jamie Collins

Responsible Party Contact: Rob Honsberger

Safety Officer (SO): Alan Dimock

NWFF Project Manager (PM): Shiloh McConnell

NWFF Response Manager
(RM): NA

NWFF Foremen: Seth Williams

Specialist Employee: NA

HAZWOPER (40hr/80Hr) Technicians:

Cesar Monroy

Seth Williams

Glenn Thor

Alex Plowman

SUBCONTRACTORS: NRC

Chad Sisk

Stan Jensen

Daniel Holmes

The Unified Command has overall responsibility for all activities on-site including implementation of the safety plan. The Unified Command may delegate this function to the SO. The SO is responsible for ensuring that all work crews and individuals on the jobsite comply with all site safety and health requirements. If changes or further information is added, the SO is responsible for notifying **all** personnel. All on-site personnel are responsible for understanding and complying with all requirements put forth by the SO.

5. SITE CONTROL

Controlled boundaries will be established. The hot zone (the work area), the warm zone (the decon area) and the cold zone (rehab and command area) will be designated by:

Hot zone – roadway and lake within the first containment boom

Warm zone- area between first and second booms

Cold zone- work area and decon

6. TRAINING AND DOCUMENTATION

In compliance with 29 CFR 1910.120 all on-site personnel receive a minimum of forty hours of training on safe work practices at hazardous waste sites. Annually thereafter, all field employees receive eight hours of refresher training on the following topics:

Regulatory Compliance (OSHA, EPA, DOT)

Environmental Monitoring/Sampling

Noise

Toxicology

Heat/Cold Stress

Flammable

Drum Handling

Corrosives/Reactives

Confined Space

Respiratory

Protection

Decontamination

Protective Clothing

Site Safety Plans

Medical Surveillance

Contingency Plans

Team leaders and supervisors receive a minimum of eight hours training on safe management of hazardous waste sites. All training complies with 29 CFR 1910.120.

Site-specific training is held at the beginning of each job. A record of this training and all operations is kept on the job site. Safety briefings are held before work commences on any job for all personnel. If operations continue for more than one day, safety briefings will be held at the beginning of each shift.

7. MEDICAL SURVEILLANCE

Pre-employment and periodic medical examinations are required for persons working at hazardous waste sites. The medical examination must have been within a twelve-month period prior to on-site activities and repeated at least every other year. A licensed physician must issue a written opinion that the worker is fit for duty for hazardous waste site work and respirator wear. Workers are informed of their right of accessibility to their medical records.

8. HAZARD AND RISK ANALYSIS

Chemicals	_____x_____	Heavy Equipment	_____x_____
Confined Space	_____	Heat	_____
Flammability	_____x_____	Cold	_____x_____
Reactivity	_____	Drums	_____
Terrain	_____x_____	Oxygen Deficiency	_____x_____
Electrical	_____	Corrosivity	_____
Noise	_____	Altitude	_____
Radiation	_____	Wildlife	_____x_____
Ergonomics	_____x_____	Drilling	_____
Excavation	_____	Biological Agent	_____
Explosives	_____	Vehicles	_____x_____
Other _____	_____	Other <i>MAKING & SHORELINE OPS</i>	_____x_____

SDS, if available, is attached at the end of the safety plan with pertinent information highlighted, including: Threshold Limit Values (TLV), Short Term Exposure Limits (STEL), signs, symptoms and routes of possible exposure.

Site Specific Physical Hazard Evaluation		
Task	Potential Hazard	Engineering/Abatement Control (if applicable)
Monitoring	Slip, trip, fall	Pay attention to surroundings. Depending on temperature and time of day, walking surfaces could be frozen.
Road Flush Operations	Highway/Street Traffic	Work from curb side and be aware of street traffic. High Visibility clothing should be worn Personnel in vehicles and lane closure only
All	Cold Weather/Exposure	Do not stay outside longer than necessary. Rotate workers into warmth. Use buddy system. Drink plenty of fluids, especially warm, non-caffeinated fluids. Be prepared to change out wet footwear and clothing.
Flush Operations/Site Monitoring	Driving in hazardous road conditions (snow/ice)	<u>General (from AAA):</u> <ul style="list-style-type: none"> • Drive slowly. ... • Accelerate and decelerate slowly. ... • Increase your following distance to five to six seconds. ... • Know your brakes. • Don't stop if you can avoid it. • Don't power up hills. • Don't stop going up a hill.
Product Collection/Boom Operations/Sampling	Working on water	<ul style="list-style-type: none"> • Wear personal flotation device • Be prepared to change wet clothing or footwear.
Boom Operations/Product Collection	Working near water	<ul style="list-style-type: none"> • Wear a personal flotation device. • Tie off to a fixed surface such as a tree or guard rail. • Be prepared to change wet clothing or footwear.
Product Collection/Boom Operations/Sampling	Working below grade	<ul style="list-style-type: none"> • Be aware of oxygen levels, LEL, and PID readings when working below grade such as in roadway ditches.

Operations/Sampling		in roadway ditches.
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Emergency Water Retrieval: In the event of personnel falling into the water, each boat will be equipped with ropes for emergency retrieval, personnel will be moved to the decon site for wipe down followed by first aid evaluation. If hypothermia or severe injury is noted, emergency services will be called and the person will be taken out of wet clothing and provided warming blankets until emergency services arrives. If the individual does not show signs of need for emergency services, the person will go through decon, will be moved to the command area at Viento State Park for wet clothing removal and warm shower. The individual will remain in the warming area for monitoring.

9. AIR MONITORING

4 Gas Air Monitor- continuous / hourly / daily / other

Indicator_____

Calibrated with_____

Photo Ionization Detector (PID) - continuous / hourly / other

Indicator UltraRae x2_____

Calibrated with: one with benzene 5 ppm/ one with isobutylene 100 ppm_____

Specialized Monitoring Equipment Site Specific

10. PERSONAL PROTECTIVE EQUIPMENT

Based on the evaluation of potential hazards, the following levels of Personal Protective Equipment (PPE) have been designated for the applicable work areas and/or tasks.

Location	Level of PPE
Hot Zone	Level D to begin, if needed based on air monitoring, upgrade to Level C
Warm Zone	Level D to begin, if needed based on air monitoring, upgrade to Level C
Cold Zone	Level D

Specific protective equipment for each level of protection is as follows:

LEVEL A: Vapor proof fully encapsulating suit with SCBA.

LEVEL B: Non-vapor proof fully encapsulating suit with SCBA.

LEVEL C: Level D indicators with respirator.

LEVEL D: Chest waders, PFD

11. DECONTAMINATION PROCEDURES

All personnel and all equipment leaving the hot zone shall be decontaminated. The following decontamination methods and stations will be used: Wipe down with Sorbent pads, personal shower follow up as needed.

12. CONTINGENCY AND EMERGENCY SPILL RESPONSE PLAN

The HASP provides specific actions to analyze, containerize, and remediate materials on a site and chemical-specific basis. The Emergency Spill Response Contingency Plan identifies and defines procedures for further releases of these materials.

The purpose of the Emergency Spill Response Contingency Plan is to provide site-specific planning and procedures in the event of any release of hazardous materials and/or wastes.

Our Site Safety and Work Plan provides a final section where materials to be remediated, containerized, analyzed, or transported are identified with specific methods for response to further releases. For example, plugging and patching, use of appropriate absorbants, and overpacking protocols are all in place in the event of a breach of a 55-gallon drum during the course of work. These protocols are identical to standard emergency spill response and remediation protocols currently in place for all operations.

13. Medical Emergencies

Closest Hospital:

Cascade Locks, Oregon 97014 to Providence Hood River Memorial Hospital (map is attached)

The SO shall be notified of any on-site emergency and will be responsible for ensuring that all appropriate procedures are followed. The SO may delegate this responsibility to the assigned medical officer on the job site. Upon notification of an injury on the job site, the SO or medical officer will evaluate the nature of the injury. Appropriate medical treatment will be provided at that time. **All** incidents involving injury, possible injury or exposure must be reported to the SO, regardless of how minor they appear.

In the event of an emergency on the job site, orders may be given to clear the hot zone if needed. In addition, an air horn will blow the evacuation signal: three blasts. All workers in the hot zone will proceed to the decon area for further instructions. When an on-site emergency results in evacuation of the hot zone, personnel will not re-enter that area until:

1. Conditions resulting in the emergency have been corrected.
2. All hazards have been re-assessed.
3. The safety plan has been reviewed.
4. Site personnel have been briefed on changes in the safety plan.

Basic Life Support (BLS) trauma kit is present at every response. The BLS kit can be found in contractor vehicles and trailers.

14. LINES OF COMMUNICATION

On the job communication will be done with hand-held, portable radios, previously agreed upon hand signals or face-to-face communication. The PM and SO will each carry a radio at all times. At least one radio will be provided for each team. The normal working frequency will be channel 1. If possible, line-of-sight vision will be kept at all times between the workers in the hot zone and the PM or SO.

SITE SAFETY PLAN ACKNOWLEDGEMENT

All personnel on-site have read the safety plan and are familiar with its provisions.

Job Name: _____ Date: _____

[illegible]

SITE SAFETY PLAN ACKNOWLEDGEMENT

All personnel on-site have read the safety plan and are familiar with its provisions.

Job Name: _____ Date: _____

[illegible]



Vietnam Veterans Memorial Highway, Drive 15.9 miles, 20 min
Cascade Locks, OR 97014 to Providence Hood River Memorial
Hospital



Imagery ©2019 Google, Map data ©2019 Google

5000 ft

Vietnam Veterans Memorial Highway

Cascade Locks, OR 97014



1. Head west toward I-84 W

47 s (0.1 mi)

Follow I-84 W to US-30 E in Hood River. Take exit 62 from
I-84 E/US-30 E

14 min (14.2 mi)



2. Merge onto I-84 W

3.0 mi



3. Take exit 51 toward Wyeth

0.2 mi



4. Turn left

243 ft



5. Turn left to merge onto I-84 E/US-30 E

10.9 mi





6. Take exit 62 for US-30/Westcliff Drive toward W
Hood River


0.2 mi


Continue on US-30 E to your destination


5 min (1.5 mi)

-  7. Turn right onto US-30 E

1.2 mi
-  8. Turn right onto 13th St

397 ft
-  9. Keep left to stay on 13th St

0.2 mi
-  10. Turn left

 Destination will be on the right

177 ft

Providence Hood River Memorial Hospital

810 12th St, Hood River, OR 97031

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)



SECTION 1: Identification

Product Identifier: **No. 2 Biodiesel Blend**

Other means of identification: No. 2 B2; No. 2 B5; No. 2 B20; No. 2 Biodiesel Blend - Dyed (B2, B5, B15, B20); No. 2 Biodiesel Blend - Winter (B2, B5, B15, B20)

SDS Number: **778689**

MARPOL Annex I Category: Gas Oils, Including Ship's Bunkers

Relevant identified uses: Fuel

Uses Advised Against: All others

24 Hour Emergency Phone Number: CHEMTREC 800-424-9300 (24 Hours)
CANUTEC 613-996-6666
CHEMTREC Mexico 01-800-681-9531

Manufacturer/Supplier: Phillips 66 Company
P.O. Box 4428
Houston, Texas 77210

SDS Information:
Phone: 800-762-0942
Email: SDS@P66.com
URL: www.Phillips66.com

SECTION 2: Hazard identification

Classified Hazards

H226 -- Flammable liquids -- Category 3
H304 -- Aspiration Hazard -- Category 1
H315 -- Skin corrosion/irritation -- Category 2
H332 -- Acute toxicity, Inhalation -- Category 4
H373 -- Specific target organ toxicity (repeated exposure) -- Category 2
H351 -- Carcinogenicity -- Category 2
H411 -- Hazardous to the aquatic environment, chronic toxicity -- Category 2

Other Hazards

Electrostatic charge may be generated during pumping and other operations

Label Elements



DANGER

Flammable liquid and vapor
May be fatal if swallowed and enters airways
Causes skin irritation
Harmful if inhaled
May cause damage to organs through prolonged or repeated exposure
Suspected of causing cancer
Toxic to aquatic life with long lasting effects



Obtain special instructions before use; Do not handle until all safety precautions have been read and understood; Keep away from heat/sparks/open flames/hot surfaces. - No smoking; Ground/bond container and receiving equipment; Use only non-sparking tools; Take precautionary measures against static discharge; Do not breathe dust/fume/gas/mist/vapours/spray; Wash skin thoroughly after handling; Use only outdoors or in a well-ventilated area; Avoid release to the environment; Wear protective gloves/protective clothing and eye/face protection; IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician; Do NOT induce vomiting; IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower; IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing; Call a POISON CENTER or doctor/physician if you feel unwell; Take off contaminated clothing and wash before reuse; In case of fire: Use CO2, dry chemical, or foam for extinction; Store in a well-ventilated place. Keep cool; Dispose of contents/ container to an approved waste disposal plant



SECTION 3: Composition/information on ingredients

Chemical Name	CASRN	Concentration ¹
Fuels, diesel, no. 2	68476-34-6	80-98.5
Soybean oil, methyl ester	67784-80-9	1.5-20
Naphthalene	91-20-3	<1

¹ All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4: First aid measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing, and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops, seek medical attention. Wash contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician. (see Note to Physician)

Inhalation (Breathing): If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

Most important symptoms and effects, both acute and delayed: While significant vapor concentrations are not likely, high concentrations can cause minor respiratory irritation, headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Ingestion can cause irritation of the digestive tract, nausea, diarrhea, and vomiting. Dry skin and possible irritation with repeated or prolonged exposure.

Notes to Physician: When using high-pressure equipment, injection of product under the skin can occur. In this case, the casualty should be sent immediately to the hospital. Do not wait for symptoms to develop. High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. These injuries often require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury. Early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

SECTION 5: Firefighting measures

NFPA 704 Hazard Class

Health: 1 Flammability: 2 Instability: 0



0 (Minimal)
1 (Slight)
2 (Moderate)
3 (Serious)
4 (Severe)

Extinguishing Media: Dry chemical, carbon dioxide, or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

Specific hazards arising from the chemical

Unusual Fire & Explosion Hazards: Flammable. This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. This product will float and can be reignited on surface water. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of nitrogen and sulfur may also be formed.

Special protective actions for firefighters: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Flammable. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop and contain spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use foam on spills to minimize vapors. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

Methods and material for containment and cleaning up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

SECTION 7: Handling and storage

Precautions for safe handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from ignition sources such as heat/sparks/open flame – No smoking. Take precautionary measures against static discharge. Nonsparking tools should be used. Do not breathe vapors or mists. Use only outdoors or in well-ventilated area. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Flammable. May vaporize easily at ambient temperatures. The vapor is heavier than air and may create an explosive mixture of vapor and air. Beware of accumulation in confined spaces and low lying areas. Open container slowly to relieve any pressure. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-70 and/or API RP 2003 for specific bonding/grounding requirements. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

For use as a motor fuel only. Do not use as a solvent due to its flammable and potentially toxic properties. Siphoning by mouth can result in lung aspiration which can be harmful or fatal.

The use of hydrocarbon fuel in an area without adequate ventilation may result in hazardous levels of incomplete combustion products (e.g. carbon monoxide, oxides of sulfur and nitrogen, benzene and other hydrocarbons) and/or dangerously low oxygen levels.

Diesel engine exhaust contains hazardous combustion products and has been identified as a cancer hazard. Exposure should be minimized to reduce potential risk.

Static Accumulation Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding of tanks, transfer piping, and storage tank level floats are necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. Special care should be given to ensure that special slow load procedures for "switch loading" are followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such as gasoline or naphtha). For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

Conditions for safe storage: Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Store only in approved containers. Post area "No Smoking or Open Flame." Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

SECTION 8: Exposure controls/personal protection

Chemical Name	ACGIH	OSHA	Other
Fuels, diesel, no. 2	TWA: 100 mg/m ³ Skin	---	100 mg/m ³ TWA8hr 50 mg/m ³ TWA12hr 13 ppm TWA8hr 6.5 ppm TWA12hr (Phillips 66 Guidelines)

Naphthalene	STEL: 15 ppm TWA: 10 ppm 10 ppm TWA; skin; A3 - confirmed animal carcinogen with unknown relevance to humans; TLV basis: upper respiratory tract irritation Skin	TWA: 10 ppm : 50 mg/m ³	---
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Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Depending on exposure and use conditions, additional protection may be necessary to prevent skin contact including use of items such as chemical resistant boots, aprons, arm covers, hoods, coveralls, or encapsulated suits. Suggested protective materials: Nitrile

Respiratory Protection: Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with organic vapor cartridges/canisters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

Other Protective Equipment: Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

SECTION 9: Physical and chemical properties

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance: Straw colored to dyed red
Physical Form: Liquid
Odor: Diesel fuel
Odor Threshold: No data
pH: Not applicable
Vapor Density (air=1): >1
Upper Explosive Limits (vol % in air): 10.0
Lower Explosive Limits (vol % in air): 0.3
Evaporation Rate (nBuAc=1): No data
Particle Size: Not applicable
Percent Volatile: Negligible
Flammability (solid, gas): Not applicable

Flash Point: 125 - 180 °F / 52 - 82 °C
Test Method: Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010
Initial Boiling Point/Range: 300 - 690 °F / 149 - 366 °C
Vapor Pressure: <1 mm Hg
Partition Coefficient (n-octanol/water) (Kow): No data
Melting/Freezing Point: No data
Auto-ignition Temperature: 1131 °F / 611 °C
Decomposition Temperature: No data
Specific Gravity (water=1): 0.81-0.88 @ 60°F (15.6°C)
Bulk Density: 6.9 - 7.4 lbs/gal
Viscosity: 1.9 - 4.1 cSt @ 40°C
Solubility in Water: Negligible

SECTION 10: Stability and reactivity

Reactivity: Not chemically reactive.

Chemical stability: Stable under normal ambient and anticipated conditions of use.

Possibility of hazardous reactions: Hazardous reactions not anticipated.

Conditions to avoid: Avoid high temperatures and all sources of ignition. Prevent vapor accumulation.

Incompatible materials: Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous decomposition products: Not anticipated under normal conditions of use.

SECTION 11: Toxicological information

Information on Toxicological Effects

Substance / Mixture

Acute Toxicity	Hazard	Additional Information	LC50/LD50 Data
Inhalation	Harmful if inhaled		4.65 mg/L (mist)
Dermal	Unlikely to be harmful		> 2 g/kg (estimated)
Oral	Unlikely to be harmful		>5 g/kg; (estimated)

Aspiration Hazard: May be fatal if swallowed and enters airways.

Skin Corrosion/Irritation: Causes skin irritation. Repeated exposure may cause skin dryness or cracking.

Serious Eye Damage/Irritation: Causes mild eye irritation.

Skin Sensitization: No information available on the mixture, however none of the components have been classified for skin sensitization (or are below the concentration threshold for classification).

Respiratory Sensitization: No information available on the mixture, however none of the components have been classified for respiratory sensitization (or are below the concentration threshold for classification).

Specific Target Organ Toxicity (Single Exposure): No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification).

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure. Repeated dermal application of petroleum gas oils for 90 days resulted in decreased liver, thymus, and spleen weights, and altered bone marrow function. Microscopic alterations included liver hypertrophy and necrosis, decreased hematopoiesis and lymphocyte depletion.

Carcinogenicity: Suspected of causing cancer. Petroleum middle distillates have been shown to cause skin tumors in mice following repeated and prolonged skin contact. Follow-up studies have shown that these tumors are produced through a non-genotoxic mechanism associated with frequent cell damage and repair, and that they are not likely to cause tumors in the absence of prolonged skin irritation.

Germ Cell Mutagenicity: No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).

Reproductive Toxicity: No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification).

Other Comments: Diesel engine exhaust has been classified by the International Agency for Research on Cancer (IARC) and National Toxicology Program (NTP) as a carcinogen.

Information on Toxicological Effects of Components

Naphthalene

Carcinogenicity: Naphthalene has been evaluated in two year inhalation studies in both rats and mice. The US National Toxicology Program (NTP) concluded that there is clear evidence of carcinogenicity in male and female rats based on increased incidences of respiratory epithelial adenomas and olfactory epithelial neuroblastomas of the nose. NTP found some evidence of carcinogenicity in female mice (alveolar adenomas) and no evidence of carcinogenicity in male mice. Naphthalene has been identified as a carcinogen by IARC and NTP.

SECTION 12: Ecological information



GHS Classification:

H411 -- Hazardous to the aquatic environment, chronic toxicity -- Category 2

Toxic to aquatic life with long lasting effects.

Toxicity: Experimental studies of gas oils show that acute aquatic toxicity values are typically in the range 2-20 mg/L. These values are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon compositions. They should be regarded as toxic to aquatic organisms, with the potential to cause long term adverse effects in the aquatic environment.

Persistence and Degradability: Gas oils are complex combinations of individual hydrocarbon species. Based on the known or expected properties of individual constituents, category members are not predicted to be readily biodegradable. Some hydrocarbon constituents of gas oils are predicted to meet the criteria for persistence; on the other hand, some components can be easily degraded by microorganisms under aerobic conditions.

Persistence per IOPC Fund definition: Non-Persistent

Bioaccumulative Potential: Gas oil components have measured or calculated Log Kow values in the range of 3.9 to 6 which indicates a high potential to bioaccumulate. Lower molecular weight compounds are readily metabolized and the actual bioaccumulation potential of higher molecular weight compounds is limited by the low water solubility and large molecular size.

Mobility in Soil: Releases to water will result in a hydrocarbon film floating and spreading on the surface. For the lighter components, volatilization is an important loss process and reduces the hazard to aquatic organisms. In air, the hydrocarbon vapors react readily with hydroxyl radicals with half-lives of less than one day. Photooxidation on the water surface is also a significant loss process particularly for polycyclic aromatic compounds. In water, the majority of components will be adsorbed on sediment. Adsorption is the most predominant physical process on release to soil. Adsorbed hydrocarbons will slowly degrade in both water and soil.

Other adverse effects: None anticipated.

SECTION 13: Disposal considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations. This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste. However, it would likely be identified as a federally regulated RCRA hazardous waste for the following characteristic(s) shown below. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the SDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste. Container contents should be completely used and containers should be emptied prior to discard. Container residues and rinsates could be considered to be hazardous wastes.

EPA Waste Number(s)

- D001 - Ignitability characteristic

SECTION 14: Transport information

UN Number: UN1202

UN proper shipping name: Diesel fuel

Transport hazard class(es): 3 or Combustible liquid

Packing Group: III

Environmental Hazards: Marine pollutant - Environmentally Hazardous

Special precautions for user: Combustible liquid classification is dependent on a flash point of >60° C (140° F) and <93° C (200° F).

**NA1993 may be used instead of UN1202 for domestic land transportation.

If transported in bulk by marine vessel in international waters, product is being carried under the scope of MARPOL Annex I.

Container(s) greater than 5 liters (liquids) or 5 kilograms (solids), shipped by water mode and ALL bulk shipments may require the shipping description to contain the "Marine Pollutant" notation [49 CFR 172.203(l)] and the container(s) to display the [Marine Pollutant Mark] [49 CFR 172.322].

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 15: Regulatory information

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):

This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

Acute Health Hazard:	Yes
Chronic Health Hazard:	Yes
Fire Hazard:	Yes
Pressure Hazard:	No
Reactive Hazard:	No

CERCLA/SARA - Section 313 and 40 CFR 372:

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Chemical Name	Concentration ¹	de minimis
Naphthalene	<1	0.1%

EPA (CERCLA) Reportable Quantity (in pounds):

EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

California Proposition 65:

Warning: This material may contain detectable quantities of the following chemicals, known to the State of California to cause cancer, birth defects or other reproductive harm, and which may be subject to the warning requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

Chemical Name	Type of Toxicity
Naphthalene	Cancer

Diesel engine exhaust is on the Proposition 65 list of chemicals known to the State of California to cause cancer.

Canada:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

WHMIS Hazard Class:

B3 - Combustible liquid
D1B - Toxic materials
D2A - Very toxic materials
D2B - Toxic materials

International Inventories

All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.
All components are either on the DSL, or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

SECTION 16: Other information

Date of Issue:	Previous Issue Date:	SDS Number:	Status:
18-Mar-2015	01-Oct-2014	778689	FINAL

Revised Sections or Basis for Revision:

Technical Information (Section 1); Shipping information (Section 14)

Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

Disclaimer of Expressed and implied Warranties:

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